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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Michael Neal

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EXAMINER

AUGUSTIN, EVENS J

ART UNIT

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3621

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DELIVERY MODE

02/03/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/006,608	Applicant(s) NEAL ET AL.	
	Examiner Evens J. Augustin	Art Unit 3621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-14,16-21,25-27 and 29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-20,25,27 and 29 is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-13 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Status of Claims

1. Request for Continued Examination under 37 CFR1.114, filed on 12/18/2009, has been acknowledged. Claims 1, 3-7, 9-14 and 16-21, 25-27 and 29 are pending and have been examined. Claims 14-20, 25, 27 and 29 are allowable.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 1, 3-7, 9-13 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Particularly, claim 1 is system claim, which falls under the machine or apparatus statutory class. However, the body of the claim contains software items which are not stored in computer readable medium. For example, claim 1 recites a database performing the step of storing initial prices. According to Microsoft Computer Dictionary, a database is: a file composed of records, each containing fields together with a set of operations for searching, sorting, recombining, and other functions. Other components that appear to be software are a modeling engine, a subset generator and an optimizer. Software by itself can not be structural limitation of hardware component.

Claim Rejections - 35 USC § 112 – 2nd Paragraph

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 3-7, 9-13 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular claim 1 contains the limitation of:
"a subset generator designating a subset of products of the plurality of products, wherein the number of products in the subset of products is less than the number of products in the plurality of products, the subset being designated by solving an integer problem, and wherein the subset generator is also configured to enable a number N to be designated and the subset generator is also configured to select no more than N products of the plurality of products to form the subset of products, and wherein the selected no more than N products has the largest impact on a business objective optimization of prices of any subset of no more than N products of the plurality of products, wherein the business objective is at least one of profit maximization, and sales volume". It's not clear to one of ordinary skilled in the art as to what exactly is the actual limitation. Correction is requested.
6. Similarly, claim 21 contains the limitation of: *"receiving, using the computer, new prices for the subset of products of the product category, wherein the subset is smaller than the product category, wherein the received new prices are generated by storing initial prices for a plurality of products, designating a subset of products of the plurality of products, wherein the number of products in the subset of products is less than the number of products in the plurality of products, the subset being designated by solving an integer problem, and wherein the designation of the subset of products includes allowing*

a number N to be designated and selecting no more than N products of the plurality of products to form the subset of products, and wherein the selected no more than N products has the largest impact on a business objective optimization of prices of any subset of no more than N products of the plurality of products, wherein the business objective is at least one of profit maximization, and sales volume goal". It's not clear to one of ordinary skilled in the art as to what exactly is the actual limitation. Correction is requested.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
8. Claims 1, 3-7, 9-13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ouimet et al., (U.S. Patent No. 6,094,641) ("Ouimet") in view of Hartman et al., (U.S. Patent No. 5,987,425) ("Hartman") and Delurgio et al., (U.S. Patent No. 6,553,352) ("Delurgio").
9. As per claims 1, 3-7, 9-13 and 21, Ouimet teaches a computer implemented method for computing a preferred set of prices comprising:
 - a. the storing of initial prices of a plurality of products (column 3, lines 1-13),
 - b. creating a demand model for generating said prices (figures 3-4B; column 3, lines 1-13),

- c. displaying optimized prices and setting store prices according to the displayed optimized price (column 1, lines 65-67; column 2, lines 12-17).
- d. Ouimet did not explicitly teach an invention in which the demand model is based on bayesian method. However, Ouimet teaches that an advantage of their system is that any demand model can be used (column 1, lines 59-62) hence, it would have been to one of ordinary skill to use a model derived from Bayesian statistics. Bayesian model is well known in the art (see U.S. 6725208). Advantages of the Bayesian model is that it provides high quality solutions in in a parameter insensitive way that avoids overfitting. Furthermore, by having a clean statistical interpretation, the approach easily lends itself to estimating confidence levels and related quantities (see U.S. 6725208, column 3, lines 54-56).
- e. Claim 22 is being interpreted as a product by process claim. According to the MPEP section 2113, PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE. In this case, the product is the database. Ouimet teaches that the user will be provided with a database of predefined demand models from which to choose (column 4, lines 37-39)
- f. Ouimet does not explicitly recite dividing products into subsets. Hartman et al. teach deriving optimal prices for a plurality of products by dividing subsets according to department and price sensitivity (abstract; figure 5; column/line 2/57-3/49; column/line 4/35-5/25). Regarding, the selection of a subset of products, Hartman et al. teach product subsets being determined by “experienced retailers” who have a “good feel for the price sensitivity of items” in a product

line ('425, column 5, lines 48-64). It has been held that in order for a new combination of old elements to be patentable, the elements must cooperate in such manner as to produce a new, unobvious, and unexpected result (*In re Venner*, 120 USPQ 192 (CCPA 1958); *In re Smith*, 73 USPQ 394). It has also been held that it is not 'invention' to broadly provide a mechanical or automatic means to replace manual activity which has accomplished the same result (*In re Venner*, 120 USPQ 192 (CCPA 1958); *In re Rundell*, 9 USPQ 220).

- g. Therefore, it would have been obvious to one of ordinary skill to automate the subset selection process of Hartman et al. using a well known computer algorithm such as integer programming (IP) (Note it is inherent to the solution of an IP problem to "relax" the integer constraint in order to convert the IP problem to a more solvable LP or linear programming problem).
- h. However, neither Ouimet et al. nor Hartman et al. explicitly recite sending sales data to a server. Delurgio et al. teach sending product sales data to a server in order to receive optimized prices for said products or a subset of said products (abstract; figures 2, 11 and 12; column 7, lines 14-60). Ouimet et al. does not specifically recite demand models based on Bayesian statistics. On the other hand, Ouimet et al. teach that an advantage of their system is that any demand model can be used (column 1, lines 59-62). Delurgio et al. also teach demand models derived using Bayesian statistics (column 8, lines 10-25).
- i. Therefore, it would have been obvious to one of ordinary skill to combine the teachings of Ouimet et al., Hartman et al. and Delurgio et al. in order to provide a grocery chain (e.g. Giant, Safeway) a method for managing prices at multiple

stores ('352, column 7, lines 14-43) and better optimize prices by grouping products according to price sensitivity ('425, column/line 2/55-3/26).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Evens Augustin whose telephone number is (571) 272-6860. The Examiner can normally be reached on Monday-Friday from 9: 00 AM-6:00 PM.
11. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Andrew Fischer, can be reached at (571) 272-6779.
12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public

/EVENS J. AUGUSTIN/

Primary Examiner, Art Unit 3621

February 3, 2010